

**William Dunbar to Thomas Jefferson, December 17,
1805, from Thomas Jefferson and Early Western
Explorers, Transcribed and Edited by Gerard W. Gawalt,
Manuscript Division, Library of Congress**

William Dunbar to Thomas Jefferson

Natchez 17th Decr. 1805

Dear Sir

I have the pleasure of enclosing you an explanation with examples of the new method of finding the Longitude by a single observer, without any knowledge of the precise time: I have delayed longer than I intended forwarding this paper in order to give me time to consider this new object in every point of view, so as to render the calculations as commodious as its nature will admit; at first they were tedious and intricate, but reflection has produced Some improvement in the formula, by which any person acquainted with nautical astronomy may make the Calculation very accurately, & the use of a few tables would render them familiar to any practical navigator: as it is probable that this method will be found chiefly useful to Scientific Gentlemen traveling by land, who are unprovided with a Chronometer & without the aid of an assistant or Second observer, it is presumable that such persons will find no difficulty in making those calculations. I hope this new method will be the more acceptable to you, as it has originated from your own proposal of discovering a method of ascertaining the longitude without the aid of a time-keeper. The two examples given are not imaginary but from real observations, the first of which is recorded in my Journal, at a time when I did not dream of applying it to the purpose of finding the Longitude; the Second observation was made with little precaution, & neither of them as you will observe in Circumstances the most favorable; yet the results are so

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Satisfactory that I feel a disposition to rely upon them more than upon the Customary lunar distance; no do I suppose that the extreme results of any number of lunar altitudes taken at proper times will ever be so wide apart, as those of the common lunar

distance from a Star. I have communicated this method in its present form to my excellent friend Mr. Briggs, from whose mathematical talents I hope for farther improvements; he is now here with me & proposes in a few days going up to the 33d degree of Latitude on the Mississippi, to make some observations, & to trace if practicable the line dividing the two territories as far as the river Washita (or Ouachita, Ouatchita); he will take lunar altitudes as well as lunar distances for the Longitude; for which object he takes with him my Circle of reflection, which is a very perfect instrument graduated by the vernier to 10" altho' only six inches radius: the measurement he proposes to make will correct the Sketch I sent you of the Washita river; we both think the Mississippi and Washita rivers are probably laid down too near to each other at the parallel of 33, but whether arising from Mr. Ellicot's map of the Mississippi which I have followed or from an error in the geography of the Washita is yet uncertain; I have noted some imperfection in the position of the Walnut-hills, the longitude of which, Mr. Ellicot noted upon his map. has been ascertained by Mr. de Ferrer, yet that point of the Mississippi has been laid down too far west for that determination, & if the same error has been communicated upwards, it will cause too great an apparent approximation of the two rivers. My friend Mr. Briggs is under some perplexity from the presentment of a grand Jury, which originated in the unworthy resentment of a man of no estimation, who took advantage of the influence which his office of Attorney genl. gave him over the weak minds of the Jurors. I ought to make an apology for mentioning this subject, it being contrary to my usual practise, to intermeddle in the affairs of others; but a sense of the justice due to the character of my estimable friend, when compared with

his persecutor has drawn me into a departure from my general rule.

i have just received from London a six feet Gregorian reflecting Telescope with Six magnifying powers from 100 to 550 times; hitherto from a liberal construction of the act

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of Congress, by the Collectors of the Mississippi Territory residing at Fort Adams, I have been in the habit of receiving books and instruments free of duty, but Mr. Drowne at New Orleans is so rigidly faithful as a public Servant, that he admits of no exemption neither in favor of the Mississippi Society, for which I have lately imported a Chest of books; nor in favor of this valuable instrument, the cost of which in London was about 150 guineas, I suppose Mr. Browne is quite Correct as to the latter of the law; and I do not Know that an application to the Secretary of the Treasury, under whose Control I presume the Customs to be would produce any advantage in my favor, but certainly it cannot be the Spirit nor intention of the law to check the advancement of Science, by imposing duties on valuable instruments, not imported as merchandize, but purely for the promotion of knowledge & discovery, and which cannot yet be obtained equally perfect within the U.S. I have just, sent off an order for Mr. Briggs, Mr. Dinsmoor and myself, for astronomical instruments & Chronometers to the amount of 300 guineas, all of which as well as that just received, will in Some Shape be applied to public use and benefit & might therefore be entitled to a claim upon public indulgence.

I am glad to learn from the Secretary at War that Mr. Freeman comes to take the direction of the expedition up the red river; Lieut. Gaines, if

permitted to leave his other public business in the care of a Deputy, will be his assistant; I had already provided another Sextant equal in goodness to the one brought on by Dr. Hunter, but they are graduated to 30''' only; the Secretary at war informs me that Mr. Freeman brings with him an excellent Sextant, which gives me great pleasure, as neither of the other two merit that name from their graduation, tho' otherwise good. You have no doubt remarked from my Journal, that some interesting points on the Washita and its neighbourhood, particularly the mine on the little Missouri remain to be explored: Should You be of opinion that those merit a visit, I will just observe, that altho' my Situation with a family & other concerns demanding my protection & care, prevent me from undertaking an expedition, such as that of the red river (which otherwise would give me a very great delight) yet I might be able to find an interval of a month or two to be dedicated to a

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less distant object, in which case, all the aid I would require from the public would be ca
Corporal & 4 men with their rations to row a light boat to the points of our enquiry; and
perhaps some assistance of the military artizans to fit up a small boat of light construction:
I should also take a pleasure in traversing the alluvial Country during the time of the
inundation, with Some good instruments & a chronometer.

We have two boats prepared for the red river expedition, Each about 25 feet by 8: they
are both handsomely curved along the gunnels at bow and Stern; the bottom of one is
perfectly flat from Stem to Stern, & brought to a right angle at the junction with the Sides:
the other

has a small elevation of the bottom towards each extremity, and the right angles of the
bottom with the Sides are turned into Small curvatures: the object of their construction has
been to draw as little water as possible, and at the Same time to preserve a form of small
resistance; they may be considered as experimental boats.

I have been unsuccessful in finding at New Orleans a good watch beating Second for the
use of our red river party.

I have the honor to be with the highest respect and attachment. Your most obed. Servant,
William Dunbar

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